



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/626,225

07/24/2003

Naoyuki Enjoji

TOW-034RCE

4543

959 7590 02/09/2007
LAHIVE & COCKFIELD, LLP
ONE POST OFFICE SQUARE
BOSTON, MA 02109-2127

EXAMINER

RHEE, JANE J

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/626,225

Applicant(s)

ENJOJI ET AL.

Examiner

Jane Rhee

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/09/2006 has been entered.

Rejections Repeated

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shimotori et al.

As to claims 1, Shimotori et al. discloses a fuel cell formed by stacking a plurality of unit cells in a stacking direction (figure 3), wherein unit cells includes a first separator, a second separator and an electrolyte electrode assembly that is sandwiched between the first and second separators, the electrolyte assembly includes a pair of electrodes

and an electrolyte interposed between the electrodes (figure 3 number 8a,8b,8c), wherein the electrodes have a substantially square shape having a side length in a range of 140mm to 200mm, the first and second separators have a substantially square shape having a side length in a range of 200mm to 300mm (col. 9 lines 36-38, also in col. 7 lines 41-44 it is well known in the art to provide square shaped electrodes and separators), the first and second separators have a reactant gas flow passage on their surfaces facing the electrodes for supplying a reactant gas along the electrodes (figure 10a number 24a,24b) and a coolant flow passage formed along the surfaces of the first and second separators between the first separator of one unit cell and the second separator of an adjacent unit cell such that a coolant while a direction in which the reactant gas flows crosses a direction in which the coolant flows (figure 10a number 15, see also the coolant passages in figure 27b and 28b, number 102b).

As to “for supplying a reactant gas along the electrodes”, and “for supplying a coolant while in a direction in which the reactant gas flows crosses a direction in which the coolant flows” are intended uses. It has been held that a recitation with respect to the manner in which the claimed particle is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987)

As to claim 2, Shimotori et al. discloses a reactant gas supply passage and a reactant gas discharge passage extend through two parallel side portions of the first and second separators (figure 10 number 24a,24b), in the stacking direction, and a coolant supply passage and a coolant discharge passage extend through other two

parallel side portions of the first and second separators in the stacking direction (figure 10a number 15). As to claim 3, Shimotori et al. discloses that the centers of the electrodes are substantially in alignments with the centers of the first and second separators (figure 3 number 10 and 8). As to claim 4, Shimotori et al. discloses that the reactant gas supply passage and the reactant gas discharge passage are formed symmetrically on a surface of the first and second separators (figure 10a number 24a, 24b). As to claim 5, Shimotori et al. discloses a straight reactant gas flow passage connecting the reactant gas supply and the reactant gas discharge passage is formed on the surface of the first and second separators for supplying a reactant gas to the electrode (figure 10a number 11).

As to the limitation "the fuel cell stack being used for selectively forming a first assembly, second assembly, a third assembly, and a fourth assembly depending on conditions for installing the fuel cell stack in the vehicle, wherein...the fourth assembly is formed by arranging four fuel cell stacks in square shape in a front view such that the stacking direction is oriented substantially horizontally" is an intended use. It has been held that a recitation with respect to the manner in which the claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987)

Response to Arguments

3. Applicant's arguments filed 11/09/2006 have been fully considered but they are not persuasive.

In response to applicant's argument that Shimotori does not teach or suggest a unit cell that includes a first separator and a second separator (figure 3 number 10 on either side of the electrolyte membrane 8 are the first and second separators respectively). In response to applicant's argument that Shimotori does not teach or suggest a coolant flow passage formed along the surfaces of the first and second separators (figure 10a shows coolant passages 15 that are formed on the surfaces of the first and second separators).

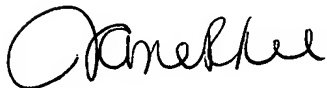
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Rhee whose telephone number is 571-272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Jane Rhee".

Jane Rhee
January 22, 2007